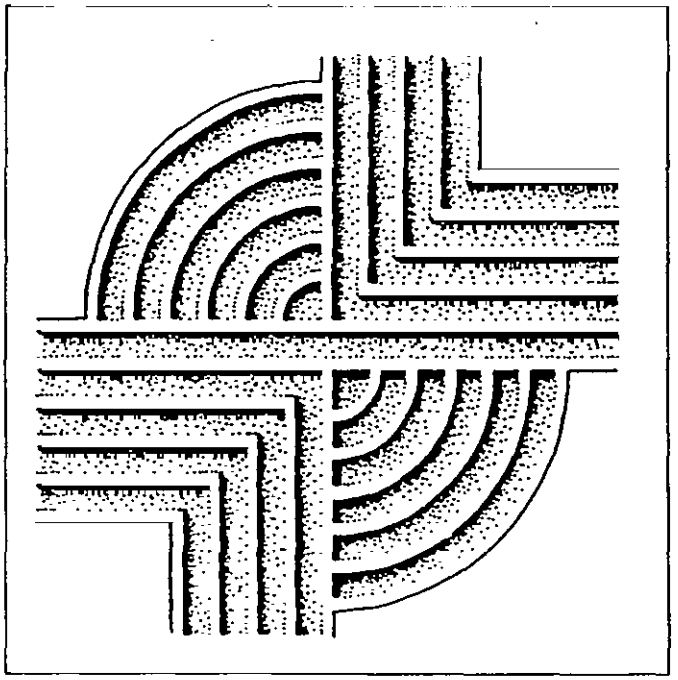
ARCHAEOLOGICAL SURVEY OF A 250 ACRE BULK STORAGE FACILITY, BULLOCH COUNTY, GEORGIA



RESEARCH CONTRIBUTION 111

ARCHAEOLOGICAL SURVEY OF A 250 ACRE BULK STORAGE FACILITY, BULLOCH COUNTY, GEORGIA

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ABSTRACT

This study presents the results of an intensive archaeological survey of the 250 acre bulk storage facility tract in Bulloch County, Georgia. The primary purpose of this investigation is to identify and assess the archaeological remains present in the proposed development tract.

As a result of this work five archaeological sites were identified, primarily through the use of pedestrian surveys in agricultural fields and systematic shovel testing in wooded areas. One standing structure (9BU18) was located which dates circa 1930 and appears to have been occupied as late as 1992.

Of the identified sites, one (9BU21) contained a prehistoric component and four (Sites 9BU17, 9BU18, 9BU19, and 9BU20) dated to the mid-nineteenth through mid-twentieth century. Sites 9BU17, 9BU19, and 9BU21 were extensively disturbed by plowing. Site 9BU18 contained no subsurface remains, but included standing structures. The potential of these building to contribution information to twentieth century lifestyles was realized through site recordation. Site 9BU20 did not contain information believed to be able to address important research questions about mid to late twentieth century lifestyles. As a result, all five sites are recommended as not eligible for inclusion on the National Register of Historic Places.

ACKNOWLEDGEMENTS

This work was funded by Piedmont Olsen Hensley. While the work was conducted in compliance with various national historic preservation requirements, I wish to thank Mr. Charles Froneberger for his unwaivering support and interest in the project. Also, the Piedmont Olsen Hensley surveyors were extremely helpful in locating property boundaries. I would also like to thank Mr. Neils Taylor who assisted with the field investigations. A great deal of the success of this project is due to his diligence and professionalism.

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INTRODUCTION

The investigation of the proposed bulk storage facility tract was conducted by Ms. Natalie Adams of Chicora Foundation, Inc. for Piedmont Olsen Hensley of Greenville, South Carolina. The approximately 250 acre tract is located about five miles southwest of Statesboro (Figure 1). It is bordered to the northeast by County Road 204, to the northwest by Cypress Lake Road, to the southeast by a Central of Georgia railroad right of way, and to the southwest by privately owned property (Figures 2 and 3).

Within the property is a network of dirt field roads which give access to most of the property areas. In addition, Jimps Road bisects the property into nearly equal halves. There are two small intermittent drainages located along the western and southern edges of the property which have been impounded to form ponds. Most of the parcel consists of agricultural fields, while small areas in the northern portion of the tract consist of planted pine. Vegetation in low areas adjacent to drainageways consists of pine/mixed hardwood with a relatively heavy herbaceous undergrowth.

The survey tract represents the area where a bulk storage facility is planned to be constructed. These developments will likely consist of additional roads, utilities, building construction, and landscaping. Construction activities will include extensive clearing, grubbing, and grading -- all having the potential to damage or destroy archaeological resources within the tract.

The proposed project was reviewed internally and an intensive archaeological survey was recommended. Chicora was interviewed for the proposed project on May 4 and was requested to submit a budgetary proposal for such a survey by Piedmont Olsen Hensley on the same day. A proposal was submitted on May 5, 1993. The investigations proposed by Chicora Foundation were approved by Mr. Charles Froneberger of Piedmont Olsen Hensley on May 24, 1993.

Chicora Foundation consulted the statewide archaeological site files held by the University of Georgia. No archaeological sites were recorded in the project area and less than 20 reports had been issued for Bulloch County as of 1986 (Crook 1986). While additional reports have been issued since then, Bulloch County appears to be under-represented in archaeological studies.

The field investigations were conducted May 26 and 27, 1993 by Ms. Natalie Adams and Mr. Neils Taylor. This field work involved 32 person hours. Laboratory analysis and report production were conducted at Chicora's laboratories in Columbia, South Carolina on May 28 and 30, 1993.

Arrangements are being made to curate the collections from these investigations at the University of Georgia. Cataloging will be conducted to the facility's standards at the completion of the study. None of the artifacts collected require conservation treatments. All original field records and duplicate copies will be provided to the institution on pH neutral, alkaline buffered paper. The black and white photographic materials have been processed to archival permanence.

EFFECTIVE ENVIRONMENT

Bulloch County is in the southeastern part of Georgia. It is separated from Effingham and Screven counties by the Ogeechee River. It is bordered to the north by Jenkins County, to the west by Candler and Evans Counties, and to the south by Bryan County. It is situated about 53 miles northwest of Savannah and 211 miles southeast of Atlanta.

The topography varies somewhat as one moves from the Coastal Zone located in the southeastern third of the county to the Coastal Plain. The Coastal Zone is generally flat extending approximately 75 kilometers inland to the western edge of the Wocomico formation of relic beach ridges and marshes (Wharton 1977). The Coastal Plain consists of a highly dissected Plain containing gently rolling topography (Paulk 1968). Elevations in the county range from about 40 feet mean sea level (MSL) near Denmark to more than 300 feet MSL along the Jenkins County line (Paulk 1968:72).

The project area is located in the Coastal Plain and elevations range from 160 to 200 feet above MSL. The topography is gently rolling with land becoming moderately steep adjacent to drainageways in the northern portion of the tract.

Bulloch County is drained by the Ogeechee River and Lotts Creek (a tributary of Canoochee River). Dendritic tributary systems running perpendicular to the river are common in the Coastal Plain portion of the basin. The largest stream in the vicinity of the project area is Watering Hole Branch, located west of the tract. Two intermittent streams are found in the survey area. These have been impounded to form ponds.

Eight soil series are found in the project area including Cowarts loamy sand, Dothan loamy sand, Fuquay loamy sand, Grady sandy loam, Lakeland sand, Plummer sand, Rutlege sand, and Tifton loamy sand. Cowarts and Dothan loamy sands are both well drained. The Ap zones consists of seven to eight inches of dark grayish brown (10YR4/2) soil overlying yellowish brown (10YR 5/4) subsoil. Fuquay loamy sands are also well drained. The Ap zone consists of eight inches of grayish brown (10YR5/2) soil overlying light yellowish brown (10YR6/4) subsoil. Grady sandy loams are poorly drained. The Ap horizon consists of six inches of dark gray (10YR4/1) soils overlying gray (10YR5/1) subsoils. Lakeland sands are excessively drained. The Ap zone consists of one foot of gray (10YR5/1) soil overlying light yellowish brown (10YR6/4) subsoil. Plummer sands are poorly drained. The Ap horizon consists of six inches of very dark gray (10YR3/1) soil overlying gray (10YR5/1) subsoil. Rutlege sands are very poorly drained. The Ap horizon consists of fourteen inches of black (10YR2.5/1) soil overlying very dark gray (10YR3/1) subsoil. Tifton loamy sands are well drained. The Ap horizon consists of ten inches of dark grayish brown (10YR4/2) soil overlying yellowish brown (10YR5/4) subsoils (Paulk 1968). Approximately eighty percent of the soils in the project area are well or excessively drained.

Bulloch County has a warm climate with only about 26 days per year that have freezing temperatures, primarily from December through February. The summers are long, hot, and humid. Days with the maximum temperature reaching 90° or higher occur 75% of the time between June and August. Spring and fall are both mild, yet have different weather patterns. Spring has more frequent abrupt changes in weather whereas during the fall the winds are stronger and the temperatures cooler. Winter is also rather mild, with measurable amounts of snow recorded infrequently (Paulk 1968:30-32).

The average yearly rainfall is about 44 inches. Normally, half of the rain occurs between June through September. The driest part of the year is from

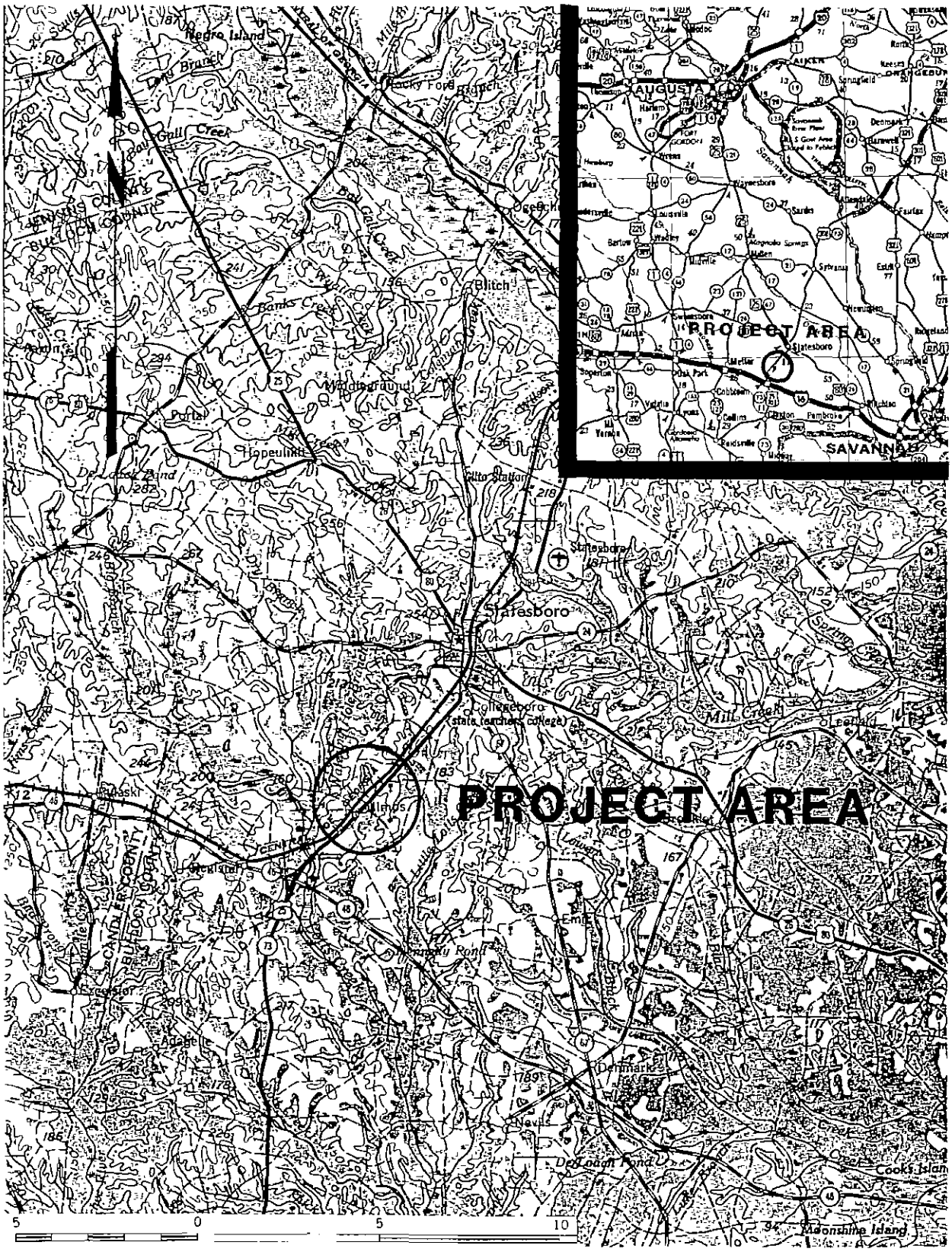

Figure 1. General locator map.

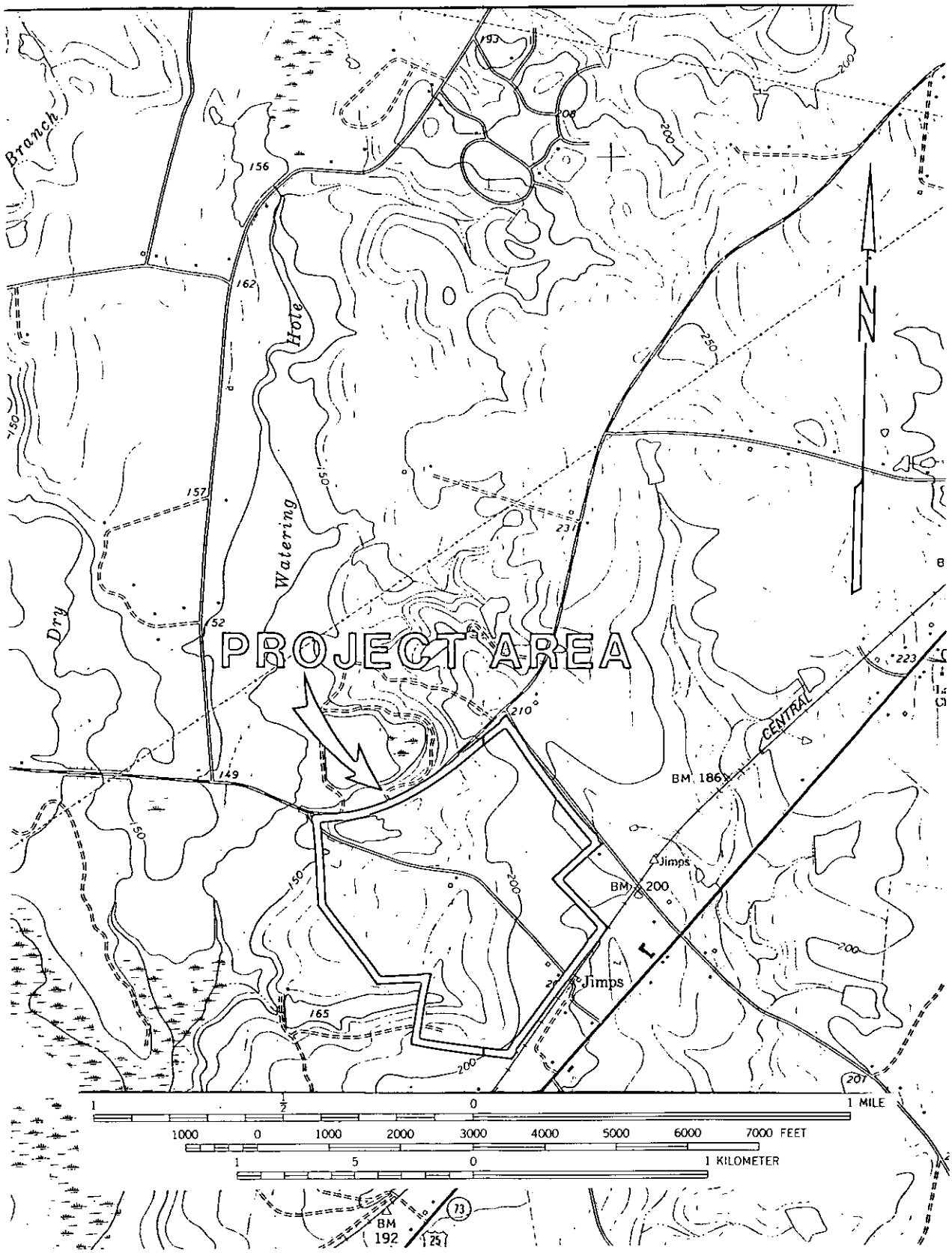

Figure 2. Location of the project area on the Statesboro USGS quadrangle map.

October through January. Much of the rain during the warm season occurs in frequent showers and thundershowers (Paulk 1968:32).

Native vegetation for the region is mainly loblolly pine, longleaf pine, oak, and hickory in the uplands. The bottom lands contain sweetgum, blackgum, yellow poplar, maple, tupelo, cypress, and water oak. Presently, the project area consists primarily of agricultural fields with several small areas of planted pine, or heavy pine/mixed hardwood growth (associated with the drainages).

HISTORICAL OVERVIEW

Prehistoric Synopsis

The Paleo-Indian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, side-notched projectile points; fluted, lanceolate projectile points; side scrapers; end scrapers; and drills (Coe 1964). The Paleo-Indian occupation, while widespread, does not appear to have been intensive. Points usually associated with this period include the Clovis and several variants, Suwannee, Simpson, and Dalton (Goodyear et al. 1989:36-38). In South Georgia and Florida Santa Fe points are also often considered to be products of the Paleo-Indian period (Snow 1977). In neighboring South Carolina Paleo-Indian points have generally been found along major river drainages. Michie (1977:124) has interpreted this pattern as supporting the concept of an economy "oriented towards the exploitation on now extinct mega-fauna". Based on the locations of 100 diagnostic projectile points, he has found that sites tend to be located along the larger river systems, primarily at the intersection of creeks and river floodplains and on the highest portion of the land near the intersection.

Several Paleo-Indian projectile points have been found at the Theriault site on Brier Creek (Brockington 1971). Other evidence of Paleo-Indian occupation of Georgia includes a Santa Fe projectile point at the Jack Wildes Site (9BC16) in the Upper Satilla Basin. Pitted stones are also thought to be associated with the Paleo-Indian period. Snow (1977) reported finding these stones at three sites in the Ocmulgee Big Bend region. At one of these sites Clovis, Suwanee, and Santa Fe points were found in surface collection.

There has been some research in Georgia directed specifically to the Paleo-Indian period. Goodyear and Charles (1984) investigated the Paleo-Indian use of chert quarries along the Savannah River including the extensive Brier Creek chert locality. A portion of the Wallace Reservoir in north Georgia was examined to locate early sites in the floodplains of the Oconee River (Fish et al. 1978; Ledbetter 1978). The Wallace project identified several sites containing Paleo-Indian material. One of those sites (9GE309) received further testing and was found to contain stratified Paleo-Indian and Early Archaic deposits (see also O'Steen et al. 1986). Other sites include the Standing Boy sites near Columbus (McMichael and Keller 1960; Huscher 1964) and the Taylor Hill site in Augusta (Elliot and Doyon 1981).

Unfortunately, little is known about Paleo-Indian subsistence strategies, settlement systems, or social organization. Generally, archaeologists agree that the Paleo-Indian groups were at a band level of society, were nomadic, and were both hunters and foragers. While population density, based on the isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30). Until more research is directed toward obtaining data on Paleo-Indian sites in Georgia, settlement and subsistence interpretations remain tenuous (see Ledbetter et al. 1992 for additional information).

The Archaic period, which dates from 8000 to 2000 B.C., does not form a sharp break with the Paleo-Indian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Archaic period assemblages, characterized by corner-notched, side-notched, and broad stemmed projectile points, are common in the vicinity, although they rarely are found in good, well-preserved contexts.

There is a much higher instance of Early Archaic artifacts over Paleo-

Indian material in Georgia as elsewhere in the Southeast. In the Upper Satilla basin survey, several Dalton, Kirk and Bolen projectile points were found (Blanton 1979). As with Paleo-Indian components, these sites were usually found on sand hills.

The earliest Archaic material in Georgia is represented by the Standing Boy flint industry with its beveled and notched points. Following this are a number of stemmed point forms including Stanly. Savannah River projectile points occur during the latest phase of the Archaic.

On the coast, there is evidence for occupation only during the last thousand years of the Archaic. Because of the rising sea level prior to 3000 B.C. any earlier sites are now under water. Archaic sites on the coast are often characterized by shell middens or shell rings. Due to the adaptation to marine resources, the number and variety of tool types found in these middens is small. Bone artifacts include socketed antler projectile points, bone pins, and bone awls, but at some sites they are rare. Other tools include antler flakers, drifts, wedges, conch shell tools (hoes or adzes), stone projectile points, net sinkers, and grinding implements.

Most of the Piedmont Archaic sites that Wauchope located in North Georgia are probably related to what Caldwell (1954) has defined as the "Old Quartz Industry". A large number of the Old Quartz sites have been found in the piedmont. Typically they consist of small scatters found on hill tops or river terraces. Surface collections usually produce a number of bifaces and finished projectile points. Ground stone tools are absent. Only a few of these sites have been excavated. These sites include the Lake Springs site on the Savannah River (Caldwell 1954), the Six Toe Field site at Carters Dam in Murray County (Beasley 1971), and the Orkin site on the Flint River (DePratter 1972).

The Orkin site is located on a 30 foot bluff overlooking the Flint River. Tools recovered include flake scrapers, projectile points, knives or blades, and a few hammerstones or anvils. No organic material or features were found. However, artifacts were distributed in a circular pattern in one area of the site, suggesting a possible structure or activity area (DePratter 1972).

Stallings Island is the largest of the known Savannah River sites (Claflin 1931). Several feet of preceramic midden underlies two to three feet of midden containing fiber tempered pottery. Bone and shell artifacts were well preserved. It is just before the Late Archaic period characterized by Savannah River stemmed points that the "Old Quartz Industry" dies out and projectile points made primarily of rhyolite are used.

Further statements regarding the Archaic in Georgia cannot be made until more deeply stratified sites containing radiocarbon dating material are located and excavated. In addition, a there are still a number of questions regarding the "Old Quartz Industry". More sites documenting this change from quartz to rhyolite tools need examination (DePratter 1976).

The Woodland period begins, by definition, with the introduction of fired clay pottery about 2000 B.C. along the Georgia and South Carolina coast and much later in the Piedmont, about 500 B.C. It should be noted that many researchers call the period from about 2500 to 1000 B.C. the Late Archaic because of a perceived continuation of the Archaic lifestyle in spite of the manufacture of pottery. Regardless of terminology, the period from 2000 to 500 B.C. was a period of tremendous change.

The subsistence economy during this early period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish. Various calculations of the probable yield of deer, fish, and other food sources identified from some coastal sites indicate that sedentary life was not only possible, but probable. Further inland it seems

likely that many Native American groups continued the previous established patterns of band mobility. These frequent moves would allow the groups to take advantage of various seasonal resources, such as shad and sturgeon in the spring, nut masts in the fall, and turkeys during the winter.

The earliest examples of Woodland on the Coastal Plain are the previously discussed Stallings Island fiber tempered wares. Other types include Refuge Simple Stamped (found near the Savannah River) and Norwood Simple Stamped (from the Florida panhandle area). In the interior of southern Georgia, few sites approaching the age of Refuge or Norwood have been identified. While one might say that this indicates evidence that the Archaic period persisted much longer away from shellfish and deciduous forest resources, only further research will provide clues as to the reason for the sparsity of these potteries.

On the northern periphery of the Coastal Plain, Mossy Oak Simple Stamped has been found. Its chronological position is unclear, but it should be stated that ceramics fitting the Mossy Oak description are often found in cultural manifestations 1000 years younger than Refuge or Norwood (McMichael and Kellar 1960).

Deptford pottery as discussed by Smith (1972) is a central pottery type with a number of varieties. The pottery is decorated with cord marking, simple stamping, and check stamping. Smith found that habitation sites and pottery variations coincided. For instance, Cartersville variety is usually associated with plant remains whereas Deptford is usually associated with shell middens. The shell middens with which coastal Deptford is associated, indicate an emphasis on marine resources. However, the diet also included animal and plant foods. In the interior of the state, people making Cartersville pottery apparently concentrated on plant foods, but animals were also hunted.

Wilmington pottery appears to be the only apparent Northern tradition manifestation south of the Georgia Fall Line. Originally it was believed that it was this time that burial mounds were introduced and it was suggested that this idea came south along the coast with the cord-marking pottery typical of the period. Now evidence suggests that it maybe from the southwest toward the Gulf coast (Kelly and McMichael 1962).

Because of the proximity of the Gulf Coast to the state, Georgia Coastal Plain has been influenced by two traditions. The Gulf tradition and the Southern Appalachian tradition. The Gulf tradition was centered primarily on the northern border of the Gulf of Mexico and the Southern Appalachian tradition was centered in the area which includes the Piedmont and Appalachian regions of the state.

The Late Woodland period includes Swift Creek, Santa Rosa, Kolomoki, and Weeden Island potteries. There have been a number questions relating to the development of the Late Woodland (see Schnell 1975). Regardless of the developments, the Southern Appalachian-Gulf interaction stimulation reached its peak at the Kolomoki site (Sears 1956).

The South Appalachian Mississippian period, from about A.D. 1100 to A.D. 1640 is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest coastal phases are named the Savannah and Irene (A.D. 1200 to 1550).

On the Georgia coast, a fairly detailed cultural sequence (St. Catherine's, Savannah I, and Savannah II) has been developed for the Savannah area (Caldwell 1952; 1971; Caldwell and McCann 1941). Here the cultural tradition is for the most part very different from that in the Piedmont. The pottery is generally cordmarked or plain. Toward the end of this sequence, check stamping and

complicated stamping occurs similar to potteries found above the fall line. These new pottery decorative motifs as well as the appearance of platform mounts at the Irene site indicate that the coast was receiving strong influence from the Piedmont (Hally 1975).

There is minimal archaeological evidence for historic Indian occupation along the middle Savannah and Ogeechee Rivers. DePratter (1988) has recently summarized the historical evidence, and the general locations of a number of towns occupied after 1670 have been identified. Caldwell (1948) found evidence of a post-contact Indian site on the Savannah River in Hampton County, South Carolina which he believes is the early Creek town of Palachacolas. The only other evidence for historic Indian occupations in the Savannah River Valley comes from the upper part of the drainage, where a number of Lower Cherokee Towns were present until late in the eighteenth century (see Caldwell 1956; Kelly and DeBaillou 1960; Kelly and Neitzel 1961).

Historic Synopsis

Following DeSoto's explorations in North America, little European settlement activity occurred in the southeast until the 1560s when both French and Spanish attempted to settle "La Florida". It wasn't until 1670, however, that a permanent settlement was established at Charles Towne.

The Colony of Georgia was granted in July 1732 and was colonized under James Oglethorpe's leadership. This colonization developed under the auspices of a Trustee government from 1732 until 1752, at which time it was replaced by a Royal Government. As additional settlers arrived, they were placed in a series of small, defensive communities located at some distance from the Savannah River. These communities included Fort Argyle on the Ogeechee River, Thunderbolt on Augustine Creek, as well as settlements on Skidaway and Tybee Islands. Due to poor agricultural conditions and lack of communication with Savannah, most of these settlements were unsuccessful (Howard et al. 1980:43).

Bulloch County was formed in 1796 after several county divisions. The area containing Bulloch County was originally Savannah County. The only other county at that time was Fredricksburg. In 1758 Georgia was divided into eight parishes. Bulloch fell within both St. Matthew's and St. George's parishes. In 1793 Screven County was created out of Burke and Effingham counties. Six years later, Bulloch County was carved out of Screven County (Hollingsworth 1947:7, 16).

Oglethorpe envisioned a colony that was quite unlike South Carolina. Instead of a few large rice plantations, the plan was to grant small parcels for growing diverse crops. The maximum landholding was to be 500 acres. This limit on acreage was intended to preserve the yeoman farming situation, so that an imbalance of white landowners to black slaves would not occur. Both rum and slavery was outlawed in 1736. By the early 1740s, this plan fell apart. Maximum land holdings were increased to 2000 acres. In 1750, the importation of African-Americans was allowed, making possible a plantation slavery system. In 1755 the Screven County population was 2380 whites and 1066 blacks. European settlers of the area consisted primarily of German Salzburgers and Scotch-Irish. The township of Queensboro was settled on the Ogeechee River by Scotch-Irish in 1769 (Hollingsworth 1947:7). This settlement was located about 120 miles from the sea at the fort of the Ogeechee and Lambert's River. Ebenezer township was settled near the Savannah River (in Effingham County) immediately south of the confluence of Ebenezer Creek. This township was settled by Salzburgers in 1738 (in Smith 1986:14).

During the 1750s and 1760s, Georgia grew rapidly. Both Savannah and Sunbury became important ports. By 1776, the population had grown to about 40,000. About half of these were black. By the 1760s Georgia was exporting a number of items for sale including rice, rough rice, tar, pitch, turpentine, salted beef and pork, corn, peas, orange juice, soy, indigo, deer and beaver skins, tanned hides,

raw silk, sago powder, bees wax, tobacco, hemp, tallow, horses, mules, cows, hogs, poultry, reeds, hoops, oars, staves, shingles, and timber (De Vorsey 1971:164).

During the Revolutionary War, Savannah was captured by the British unopposed. The capital was shifted from Savannah to Augusta. Attempts to recapture Savannah failed, and in 1780 Charles Towne was taken by the British. Augusta fell soon thereafter. A year later the tide began to turn and Augusta was recaptured by the Americans. Savannah was taken back in 1782.

While skirmishes occurred throughout the Revolutionary War period, the battle of Brier Creek was one of the notably larger exchanges that took place in the area. This battle occurred in neighboring Screven County on March 3, 1779 at Freeman's old bridge. A column consisting of a battalion of the 71st regiment and 150 Carolina loyalists were sent to Buck Creek, three miles south of Brier Creek bridge, to make a feint attack against the Americans. Meanwhile another column was to march up the south side of Brier Creek and attack from behind. While there are discrepancies regarding the fierceness of the fight, the Americans lost the battle (Hollingsworth 1947:9-11).

Between 1780 and 1800 agricultural methods changed which had a great impact on the future of Georgia. With inland areas becoming more populated, upland cotton was starting to be cultivated. By 1820, 60% of upland farmers were growing cotton. Despite bans on slave importation during the last decades of the eighteenth century, slavery was heavily relied upon.

By the 1790s the road network was relatively good and freight was being transported inland on both the Savannah and Ogeechee Rivers. There were two stage coach routes that passed through the area. One route connected Savannah and Augusta. The second route, near the Ogeechee River, connected Savannah with the heavily populated middle Georgia area (Hollingsworth 1947:15).

From 1820 up to the Civil War, economic growth was rapid. After the forced removal of Indians from Georgia in 1828, new areas of the state became available. Railroads were constructed and Savannah's role as a major port grew. Textile mills, tanneries, distilleries, and lumber mills began to spring up. In the mid nineteenth century farms produced primarily cotton, corn, rye, peas, and potatoes. Cotton production increased from 90,00 bales in 1821 to over 701,000 bales in 1860. Bulloch County's population density still remained rather low with only about 3,000 inhabitants in 1840. Chatham County had almost 19,000; Liberty around 7,000; McIntoch 5,400; Glynn 5,300; Bryan 3,200; Effingham 3,100; and Wayne 1,300 in the same year (Smith 1986: Appendix 4).

In 1850 Bulloch County's population consisted of 2,840 whites and 1,460 black slaves. The county contained 26,760 improved acreage and 473,233 unimproved acreage. On these improved acres farmers were growing wheat, rye, oats, corn, potatoes, peas, beans, and hay. Also being produced was butter, cheese, cane sugar, molasses, rice, cotton, wool, beeswax, livestock, and orchard products (DeBow 1854:206-211).

In 1861 Fredrick Law Olmstead produced some general observations and statistics on Bulloch County. He noted that while much of the land was poor, property along the larger rivers contained a considerable amount of productive land. There were about 2,000 whites and 1,000 slaves. Average property value per white family was $1,570. This contrasts sharply to McIntosh County on the coast where there were four black slaves to every one white person, and the average property value per white family was $7,287. Both the poor farmers and the rich planters in Bulloch County dealt directly with Savannah since "there were probably no established tradesmen there." The people of the county relied heavily on wild game and were known to favor whiskey. Even the local ministers denounced the motives and efforts of those who tried to form temperance societies (Schlesinger 1953:607-608).

The soils in the cotton growing section of Georgia had already been depleted at this time. Olmstead (in Schlesinger 1953:530) quotes Erasmus Fenner's Southern Medical Reports:

> The native soil of Middle Georgia is a rich argilaceous loam, resting on a firm clay foundation. In some of the richer counties, nearly all of the lands have been cut down, and appropriated to tillage; a large maximum of which have been worn out, leaving a desolate picture for the traveller to behold. Decaying tenements, red, old hills, stripped of their native growth and virgin soil, and washed into deep gullies, with here and there patches of Bermuda grass and stunted pine shrubs, struggling for subsistence on what was once one of the richest soils in America.

Georgia's coast was captured early during the Civil War. Fort Pulaski at Savannah, the arsenal at Augusta, and the mint at Dahlonega were among the first to be taken. By 1863 Union forces had fought their way south seizing Chattanooga. From there General Sherman began his penetration into Georgia taking the state capital which was then at Milledgeville. Sherman faced little resistance and captured Savannah on December 21st, 1864. Six month later the war was over.

Economic reconstruction moved slowly since there was no surviving industry, a ruined railway system, and no slaves to work the plantations. The nationwide economic depression from 1873 to 1878 compounded the state's problems. Sharecropping became the major labor system after the war, since freed blacks and many poor whites owned no land of their own, but were a ready source of cheap labor. Cotton continued to be the major cash crop although it was expensive to produce and depleted the soils. Lumber production was also an important postwar economic activity. Forested acreage became improved as both landowners and tenants fought for the right to enjoy the profits from the timber on their property. Between 1870 and 1900, the number of farms in the state increased three times while their average size dropped 65%. Annual lumber output increased from 245 million board feet to 1,312 million board feet for the same years.

Data on land values for the second half of the nineteenth century shows that Bulloch County lands were not highly valued. Chatham County had the most valuable lands since it produced large quantities of rice. Other rice producing counties (McIntosh, Glynn, Bryan and Liberty) were not far behind. The more inland counties (Effingham, Wayne, and Bulloch) were least valued probably because very little rice production occurred in this region (see Smith 1986:35; Table 2-2).

Textile manufacture was the major industrial activity after the war, and urban growth began as this and other industries (lumber, flour and grist mills, tanneries, distilleries, brick manufacture, and fertilizers) developed around cities.

Low cotton prices and tight money slowly reduced the number of small landowners so that more than 68% of Georgia's farmers were tenants by 1930. After World War I cotton prices fell by 50%, as did many other agricultural produce. By 1925, cotton production was down more than 60% from its 1913 level. Over 3.5 million acres were no longer being farmed.

During the Great Depression farm families sold off their properties and moved to the cities. As the railroad system returned to its pre-Civil War level, industry began to more fully develop.

Bulloch County is still largely agricultural although there are a number of industries manufacturing wool yarn and clothing. There are also plants which process meat, fruit, lumber, frozen foods, and peanuts. In addition, several lumber plants and sawmills process forest products. Agricultural crops consist mainly of corn, tobacco, cotton, peanuts, livestock, and pecans (Paulk 1968).

RESEARCH AND METHODOLOGY

Research Design

The primary goal of this study, of course, was to assist the client, Piedmont Olsen Hensley, to consider the impact of the project on archaeological and historical sites in the facility area. Consequently, the research design was essentially explorative and explicative, with the goal being to identify any evidence of prehistoric or historic sites which might be in the project area.

Once identification is achieved, however, it is essential to assess the significance of the sites. This involves determining whether any of the sites can be recommended as eligible for inclusion on the National Register of Historic Places. Butler suggests that the only valid measurement of significance is based on what he calls the "theoretical and substantive knowledge of the discipline" at any particular point in time (Butler 1987:821). Glassow (1977) has advocated an even more widely used approach which encourages the evaluation of sites through the use of five properties or features: site integrity, site clarity, artifactual variety, artifactual quantity, and the site's environmental context. These qualities stress properties of the archaeological record at the site, rather than the site's ability or potential to assist in providing data to limited, and possibly transient, research designs. Nevertheless, no matter how well preserved a site may be, if no serious questions can be developed, then it seems unlikely that it can be considered eligible for inclusion on the National Register of Historic Places.

It should be obvious that rather than being mutually exclusive approaches, both are essential to protect significant archaeological or historical sites. There must be research questions and the site must likely be able to answer those questions. Situations exist where there are important questions, but the site is too badly disturbed to allow research, or alternatively where the site is perfectly preserved, but is unlikely to offer new data.

Archaeological literature pertaining to the pine barrens of the Georgia Coastal Plain is very limited. Most of the archaeological research in the state has been conducted along the coastal strand, the fall line, or in the Richard B. Russell Reservoir (see, for example, Howard et al. 1980; Elliot and Doyon 1981; Anderson and Joseph 1988).

In adjacent Effingham and Screven counties, Fish (1976:22) found that the largest prehistoric sites occur along the Savannah River and its major tributaries, often at confluences. Smaller sites were found on well drained soils adjacent to high ranking streams. Both Fish (1976) and Stoltman (1974) found that sand hill areas with swamps adjacent to the Savannah River were intensively used, probably because swamp resources offered specialized resources for harvesting. Carolina bays also appeared to attract prehistoric people.

Turning to historic site locations, previous research has suggested that the main house or major plantation complex will be situated in areas of "high ground and deep water," which incorporate the positive attributes of well drained soils and immediate access to water transport (Hartley 1984; South and Hartley 1980). As plantation crops and owners changed during the colonial and antebellum periods, it is possible that settlement areas might also change location. Additionally, it might be impossible to locate the plantation complex in an area which was healthful, centrally located, and adjacent to a deep water access. In such cases compromises on the ideal would be made, but the weight given to each of the various attributes is unclear. While the health and well-being of the owner's slave chattel was of considerable concern, slave rows were not commonly

situated on the best land, and in some cases were located on very poorly drained soils (Singleton 1980; Zierden and Calhoun 1983). In the Coastal Plain of South Carolina, late nineteenth century and early twentieth century sites tended to shift away from waterways and became associated with road networks (Taylor 1984:196).

Field Methods

The survey tract was initially stratified, based on factors such as slope, soils, and proximity to water sources, coupled with the data from previous studies in the Coastal Plain. Three strata (high, medium, and low probability) are normally defined, with three different levels of archaeological survey. The study area, however, exhibited only medium and low archaeological probability.

Areas of high archaeological probability were defined as those which incorporated ridges with high, well drained soils adjacent to drainages. While well drained soils were found throughout most of the tract, no permanent water source with adjacent high, well drained soils are located in the survey area. Previous research has found that prehistoric archaeological sites are not often found on high, well drained soils when they are an excessive distance (ca. 300+ feet) from a water source (Taylor 1984). No areas believed to be of high archaeological probability are found on the tract.

Areas of moderate archaeological probability are those best described as the level or very gently rolling ridges found in most of the survey tract. While these areas were not anticipated to be attractive to prehistoric groups (primarily because of their lack of elevation and absence of nearby water sources), they would be attractive to historic groups. Although no "high ground, deep water" access occurs on the property, it is likely that postbellum and twentieth century sites would be found along roadways (Taylor 1984).

These areas were known to be almost entirely cultivated and at the time of the survey represent good surface visibility. Consequently, in moderate probability areas the survey consisted of a pedestrian survey with transect lines 200 feet apart. Occasional shovel tests would be excavated to verify soil conditions and to test identified archaeological sites. Other areas of moderate archaeological probability were planted in pine. Here, the areas were shovel tested using an interval of 200 feet with transect 200 feet apart.

Areas of low archaeological probability are those found on ridge side slopes, in narrow drainageways, on eroded soils, and on poorly drained soils. These low probability areas consisted of only small narrow areas of the survey tract, located adjacent to the small pond in the western section of the tract as well as a pond in the southern portion of the tract. One area located in the northern portion of the tract was initially categorized as having a moderate archaeological probability. However, shovel testing in the area of this side slope indicated a large degree of erosion. The soils in this area were hard and gravelly. In low probability areas, the property was surveyed using pedestrian walkovers with an occasional shovel test to verify soil conditions.

At all shovel tests the soil would be screened through ¼-inch mesh, with each test numbered sequentially by transect and area (Figure 3). Each shovel test would measure about 1 foot square and would normally be taken to sterile subsoil (normally to a depth of at least one foot). All cultural remains would be collected, except for shell, mortar, and brick, which would be qualitatively noted in the field and discarded. Notes, including Munsell soil colors, would be maintained for profiles at any sites encountered.

If evidence of an archaeological site was identified, the testing interval would be decreased to 50 feet or less in order to more accurately establish boundaries. At all sites Chicora would establish site boundaries, collect sufficient information to complete or revise site forms, and would assess and

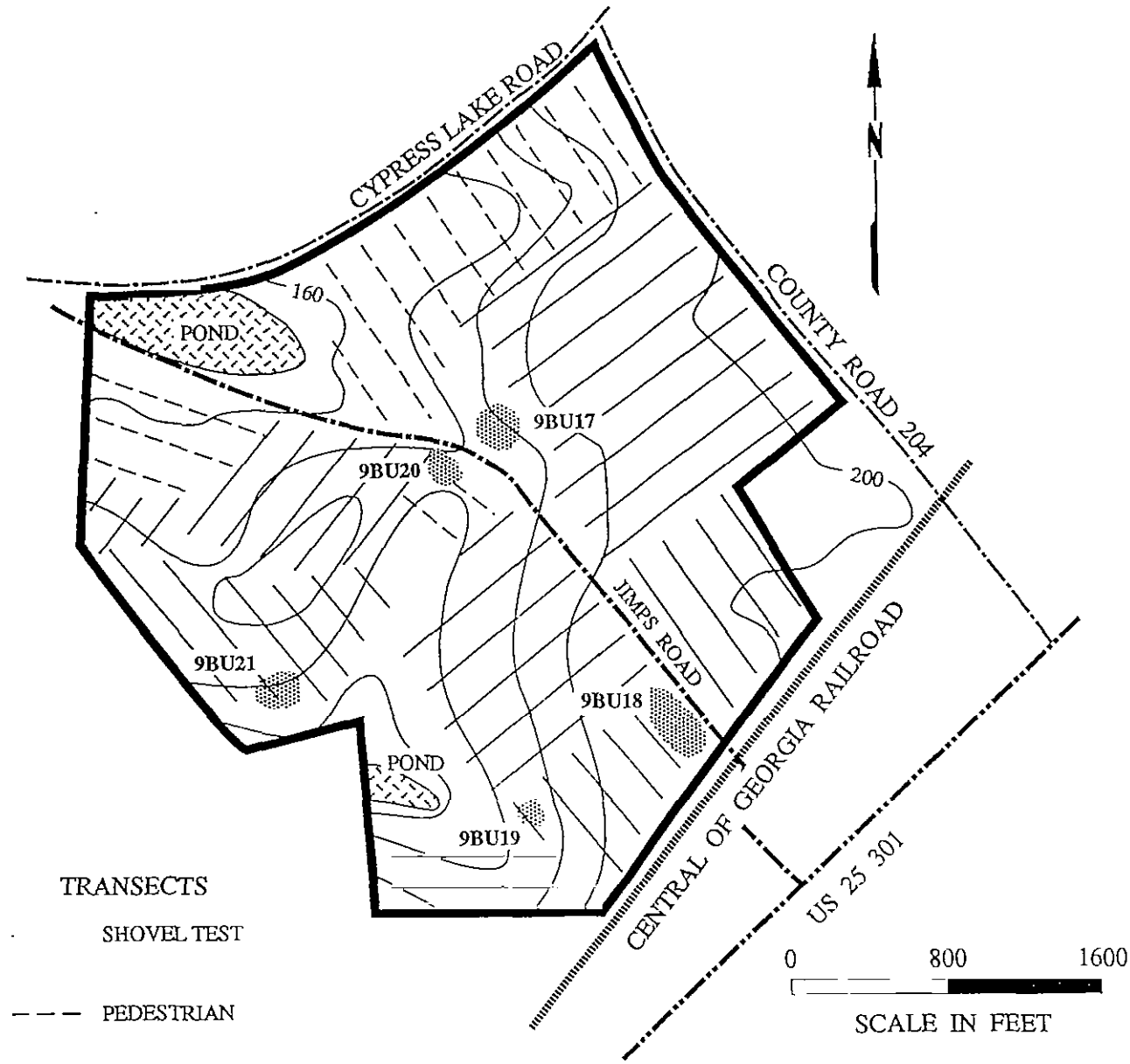

Figure 3. Location of pedestrian transects, shovel test transects and archaeological sites.

justify site eligibility for inclusion on the National Register of Historic Places.

All site locations were recorded using a Garmin GPS (global positioning system) in an autonomous mode with selective availability. As a result, it is estimated that horizontal accuracy during this project (based on comparing GPS calculated positions to known positions) was in the range of ± 30 meters.

These field methods were executed with little deviation. However, one area containing a small plowed knoll in the western portion of the tract was examined more intensively with an informal close interval walkover. Although not immediately adjacent to a water source, the area appeared to contain the highest archaeological potential in the moderate probability area.

No final survey or contour map of the project area had been drafted by the developers at the time of the field work. The client did, however, provide Chicora with rough project area boundaries on the USGS topographic map as well as maps showing the approximate boundaries of the two facility options. Project area boundaries were determined using a combination of the map sources and consultation with Piedmont Olsen Hensley surveyors.

As a result of the survey, a total of 38 formal pedestrian transects were placed in agricultural fields and 16 shovel test transects were placed in planted pine areas. A total of 118 shovel tests were excavated in the project area.

SURVEY RESULTS AND IDENTIFIED SITES

As a result of the archaeological survey of the Bulloch County bulk storage facility tract, five new sites were identified.

9BU17 is located approximately 200 feet north of a northwest bend in Jimps Road and immediately south of an east west running field road. The vegetation at the site is small planted pine and the surface visibility is approximately 80%. As a result, an extensive surface collection was made. A series of 21 shovel tests were also used to examine the area. These tests were dug in a cruciform pattern at 25 foot intervals (Figure 4). Of those tests, nine (or 42.9%) yielded

Table 1.
Location of artifacts at 9BU17

Artifact	Surf.	ST1	ST4	ST8	ST9	ST12	ST15	ST16	ST18	ST19
undec. pw	2									
undec. ww	61							1	1	
mocha ww	1									
ann. ww	6									
blue hpww	3									
poly hpww	10									
blue edged ww	4									
blue tpww	4									
brown tpww	3									
red tpww	1									
decal ww	7									
burnt ceramics	3			1						
stonewares	6									
redwares	2									
milk glass	2									
blue glass	5									
lt. blue glass	1									
aqua glass	4									1
lt. olive glass	2									
peach glass	1									
clear glass	3	1			1	1				
window glass	1		1							
nails	3						1			
pipe bowls	2									
pipe stems	1									
battery core	1									
carriage bolt	1									
tin fragment	1									
wire fragments	2									
UID metal									1	
tin can fragment										1
Total	143	1	1	1	1	1	1	1	2	2

Abbreviations: pw = pearlware; ww = whiteware; ann = annular; hp = handpainted; poly hp = poly handpainted; tp = transfer printed.

subsurface remains. These remains indicated that the site represents a domestic site dating to the mid-nineteenth century to the mid-twentieth century.

Artifacts are listed in Table 1. One of the undecorated pearlwares was

stamped "DAVENPORT" with an anchor. This mark belongs to W. Davenport & Company who manufactured porcelains and earthenwares with this mark between ca. 1800 and ca. 1860 in Longport, Staffordshire, England (Kovel and Kovel 1986:2).

Soil profiles indicated that the site had been plowed to a depth of 0.9 feet. The plowzone consisted of gray (10YR5/1) sand overlying light yellowish brown (10YR6/4) sandy subsoil. The central UTM coordinates are N3583800 E420000 and the soils are Lakeland sands. The site is 150 feet east-west by 175 feet north-south in size, based on the distribution of surface material and positive shovel tests.

Table 2.
Mean Ceramic Date for 9BU17

Ceramic		Mean Date (xi)	(fi)	fi x xi
Pearlware,	undecorated	1805	1	1805
	"DAVENPORT"	1830	1	1830
Whiteware,	undecorated	1895	63	119385
	annular	1866	6	11196
	blue handpainted	1848	3	5544
	poly handpainted	1848	10	18480
	blue edged	1853	8	14824
	blue transfer print	1848	4	7392
	non blue transfer print	1851	4	7404
	decalcomania	1926	7	13482
Total			107	201342

MCD = 201342 ÷ 107 = 1881.7

Table 3.
Artifact Pattern for 9BU17

Artifact Group	#	%
Kitchen		
Ceramics	119	
Glass	27	
Kitchenware	1	
Kitchen Total	147	90.7
Architecture		
Window Glass	2	
Nails	4	
Architecture Total	6	3.7
Tobacco Group		
Pipe Bowls	2	
Pipe Stems	1	
Tobacco Total	3	1.9
Activities Group		
Miscellaneous Hardware	1	
Other	5	
Activities Total	6	3.7
Total	162	100.0

Based on the ceramics present at the site, it appears to have had a relatively long span of occupation; possibly from about 1830 (ending date of pearlware) up through the first quarter of the twentieth century (based on the presence of decalcomania). The mean ceramic date is 1881.7 (Table 2). The

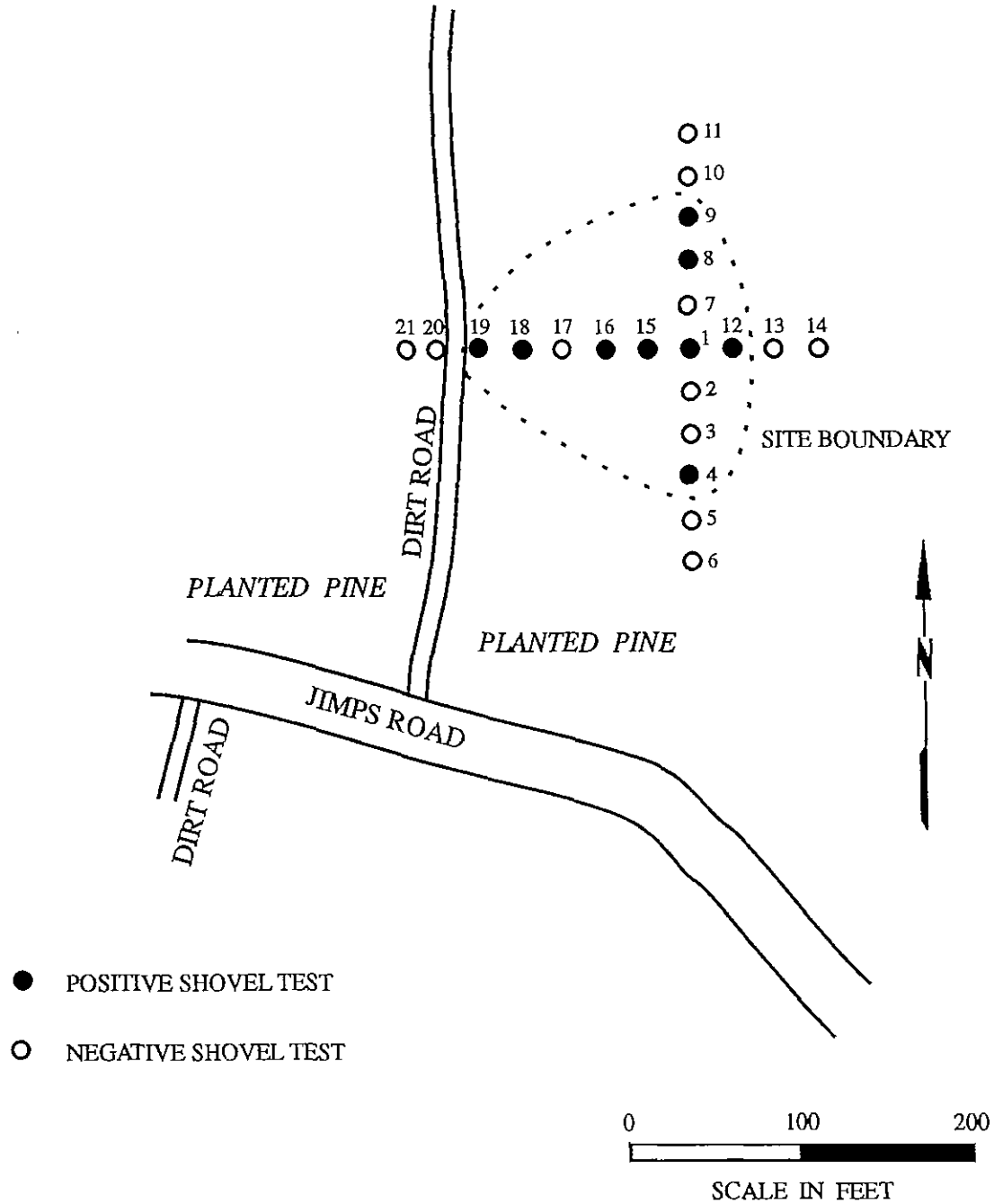

Figure 4. Map showing the locations of shovel tests at 9BU17.

artifact pattern illustrated in Table 3 reflects that most of the remains were collected from the surface resulting in a bias towards kitchen group artifacts.

9BU17 is recommended as not eligible for inclusion on the National Register. The site has been heavily plowed and, despite the excavation of 21 shovel tests, no intact subsurface features were noted.

9BU18 is located west of the intersection of Jimps Road and the Central of Georgia Railroad track. This site contains eight standing structures including a circa 1930s farmhouse, one shed, two animal pens, one chicken house, one boiling house, and two barns (Figure 5). The farmhouse is two stories and has a rectangular core shape with additions to the east (side) and north (rear) elevations. The tin roof is end to front gabled with a one story shed roof porch covering the full facade. The porch is supported by wooden pillars. There are three internal brick chimneys. Windows are single two over two panes. The house is of frame construction with white weatherboards, and the foundation is continuous brick (Figures 6 and 7).

Of particular interest is the boiling house which was used to process sugar cane into molasses or refined sugar. Inside of this wood framed structure (Figure 8) was a boiler containing a furnace, a reverbatory with one kettle, and a flue chimney. In addition, there were shelves with a large amount of jugs and jars as well as an old washing machine tub (probably used as a filter).

On the twentieth century farm the common method for processing sugar cane includes several steps: filtering and liming, boiling, crystallizing and draining, refining, decoloring, and whitening. After the cane was gathered, stripped, and crushed, it was necessary to filter the juice as it came from the mill in order to remove the cellulose and fibrous matters. It was usually filtered through a bag or a blanket placed in a basket. Next, milk of lime was added.

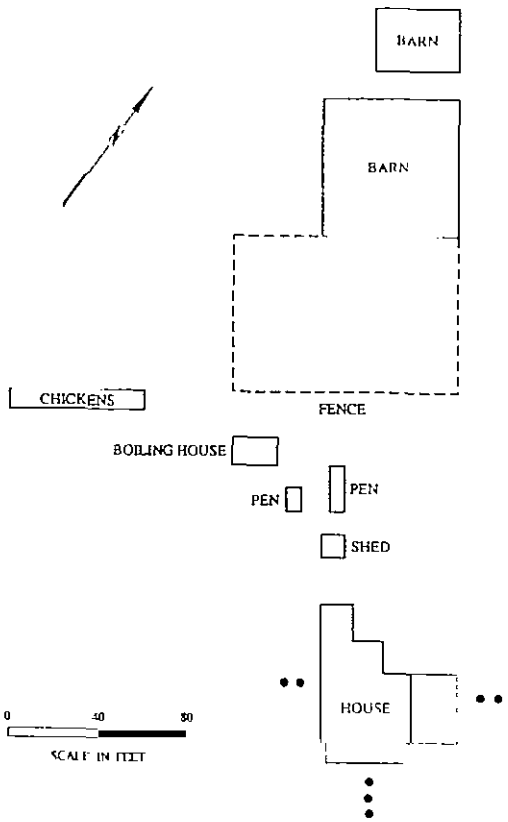

Figure 5. Location of structures at 9BU18.

Figure 6. Farmhouse at 9BU18, south elevation.

Figure 7. Farmhouse at 9BU18, north elevation.

The juice was then boiled for about fifteen minutes. A thick, greenish scum collected on the surface, which was removed by a skimmer, and then the liquid was filtered again. After it was boiled down to about half its original bulk, the fire was kept low and the syrup was constantly stirred to prevent it from burning at the bottom of the kettle or evaporating pan.

When it was as dense as sugarhouse molasses or tar, it was taken out of the evaporating vessel and placed in tubs or casks to granulate. This process took about three or four days. After it has solidified it is scooped out into conical bags and hug over the receivers of molasses. To aid in drainage, the room should be kept at 80° or 90°. After some days the sugar can be removed from the bag and it is usually the quality of brown sugar.

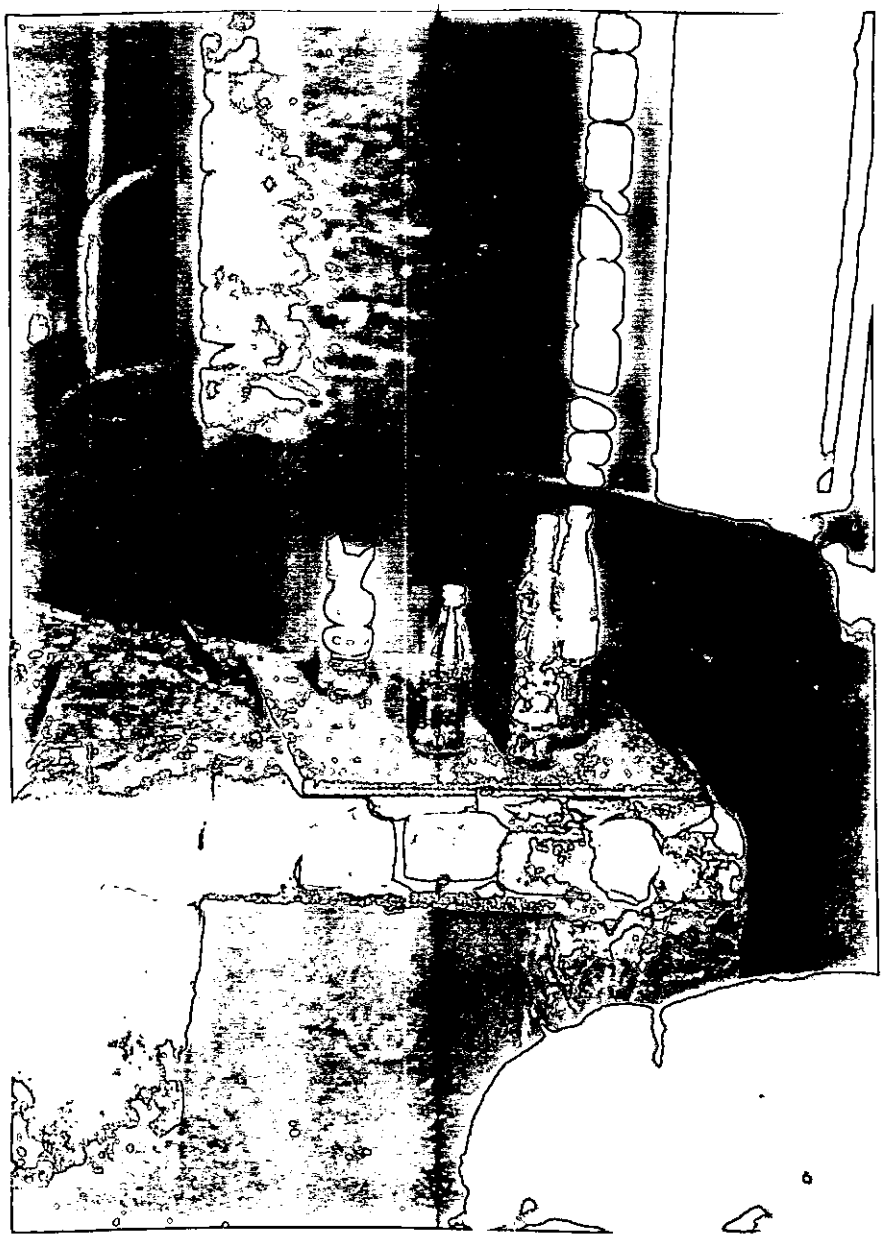

Figure 8. Outbuilding with furnace, reverbatory, kettle, and chimney for sugar processing.

To refine the sugar, it is dissolved in hot water and egg whites are added to it (one egg for every 100 lbs. of sugar) as well as cold water. It is then boiled and the syrup is heated for about one hour. It is then skimmed and filtered to remove the albumen.

Bone-black is used to decolor the sugar by adding an ounce to each gallon of the saccharine solution and boiling the whole together. It is then filtered and evaporated to half its bulk, and then slowly evaporated until dense enough to crystallize. The syrup is then left in tubs or pans to granulate.

This sugar is very light-brown and can then be whitened by putting it in cones and pouring a saturated solution of white sugar on it to displace the molasses which will drop from the apex of the inverted cone. The sugar is now refined as loaf sugar.

If a sufficient amount of sugar cane is raised on the farm, the farmer might have used vacuum pans. The result would process larger volumes of sugar cane faster (Periam 1984:264-266). One sugar house in Camden County, Georgia has been archaeologically examined which dates to the nineteenth century (see Eubanks 1985). Figure 9 illustrates a somewhat similar nineteenth century fire train

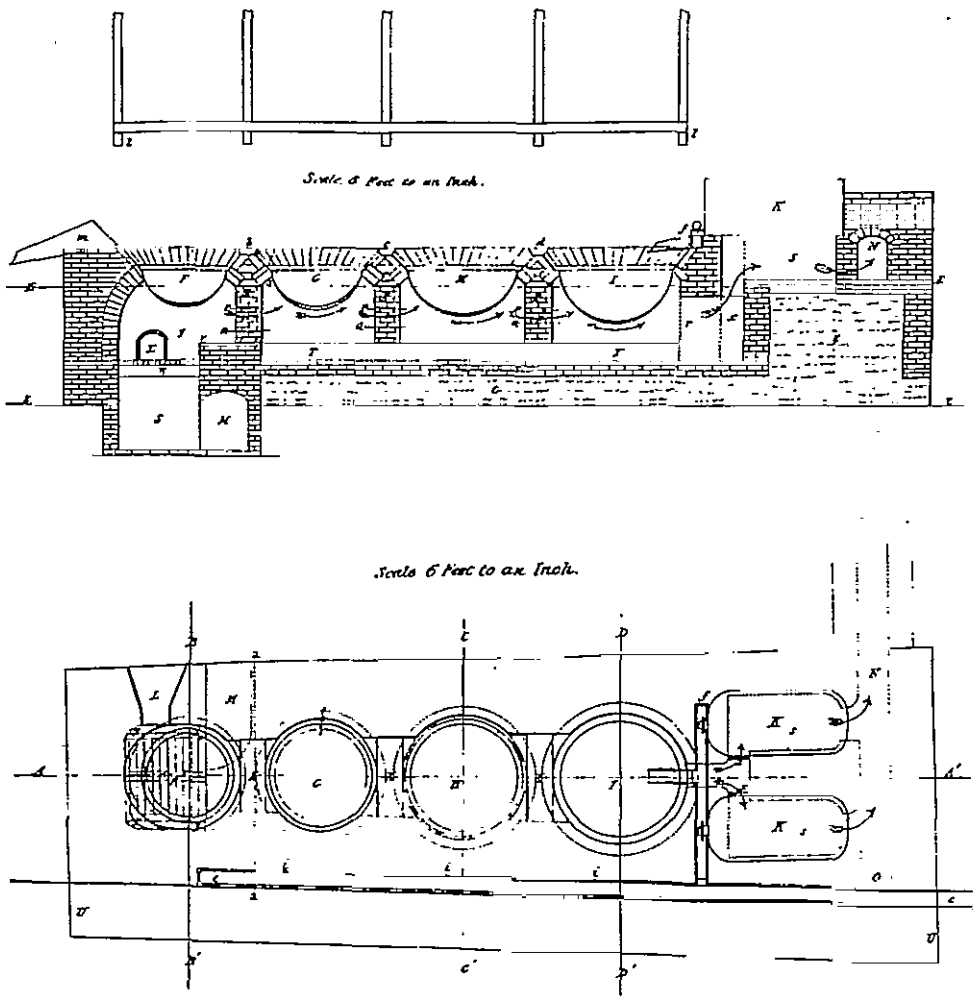

Figure 9. Couper's Hopeton fire train (*Southern Agriculturalist* 1831:282, 289).

commonly used on the Georgia Sea Islands to boil sugar.

Surface visibility was poor and no surface collection was made. Nine shovel tests were excavated at 25 and 50 foot intervals in the yard area of the farm house. None of these yielded artifactual remains. Items lying around and in the house suggest it was occupied at least through 1992.

The Ap horizon was found to a depth of 0.8 feet and consisted of dark grayish brown (10YR4/2) loamy sand overlying yellowish brown (10YR5/4) sandy subsoil. The central UTM coordinates are N3583340 E421340 and the soils are Tifton loamy sands. The site is 300 feet northwest-southeast by 200 feet northeast-southwest in size.

This site is recommended as not eligible. Although the site is undisturbed, artifactual remains were not encountered and are, therefore sparse. As a result the site has little archaeological potential to address significant research questions relating to mid twentieth century lifeways. The potential of the extant buildings was realized through survey recordation.

9BU19 is located approximately 900 feet west of site 2 at the west edge of a plowed field and approximately 400 feet north of a dirt farm road. Surface visibility was good and a surface collection was made. In addition, the site was explored with nine shovel tests in a cruciform pattern at 25 foot intervals. Of those tests, one (or 11.1%) was positive.

Artifacts include two Bristol slip stonewares, three undecorated whitewares (MCD=1895), one sponged decorated stoneware, and one milk glass jar sealer fragment.

The plowzone was found to a depth of 0.9 feet and consisted of dark grayish brown (10YR4/2) loamy sand overlying yellowish brown (10YR5/4) sandy subsoil. The central UTM coordinates are N3583260 E421060 and the soils are Dothan loamy sands. The site is 25 feet by 25 in size based on the surface scatter.

This site is recommended as not eligible for inclusion on the National Register. The site is small, the subsurface remains are sparse, and the site has been heavily plowed.

9BU20 is located just south of Jimps Road where is makes a slight west northwest curve and just east of a dirt farm road. Surface visibility was poor except along the dirt farm road. Artifacts from the road area were surface collected. In addition, the site was investigated with 15 shovel tests in a cruciform pattern at 25 foot intervals. Of those tests, eight (or 53.3%) were positive (Figure 10).

Artifacts include 31 undecorated whitewares, one tan salt glazed stoneware, two Albany slip stonewares, three burnt ceramics, two green banded tan earthenwares, two brown bottle glass, 37 clear bottle glass, one light blue bottle glass, one blue bottle glass, five milk glass, one milk glass jar sealer, one window glass, and one wire spike (Table 4). Of the ceramics only the whitewares are datable (MCD=1895). Of these 88 artifacts, 86 (or 97.7%) are kitchen related, with the remaining two (or 2.3%) being architectural related artifacts.

The Ap horizon consists of 0.7 feet of gray (10YR5/1) sand overlying light yellowish brown (10YR6/4) sandy subsoil. The central UTM coordinates are N3583760 E420920 and the soils are Lakeland sands. The site is 200 feet east-west by 100 feet north-south in size, based on the positive shovel tests.

9BU20 is recommended as not eligible for inclusion on the National Register. The site appears to date to the mid to late twentieth century. It was apparently still standing and occupied in 1978 when the Statesboro USGS

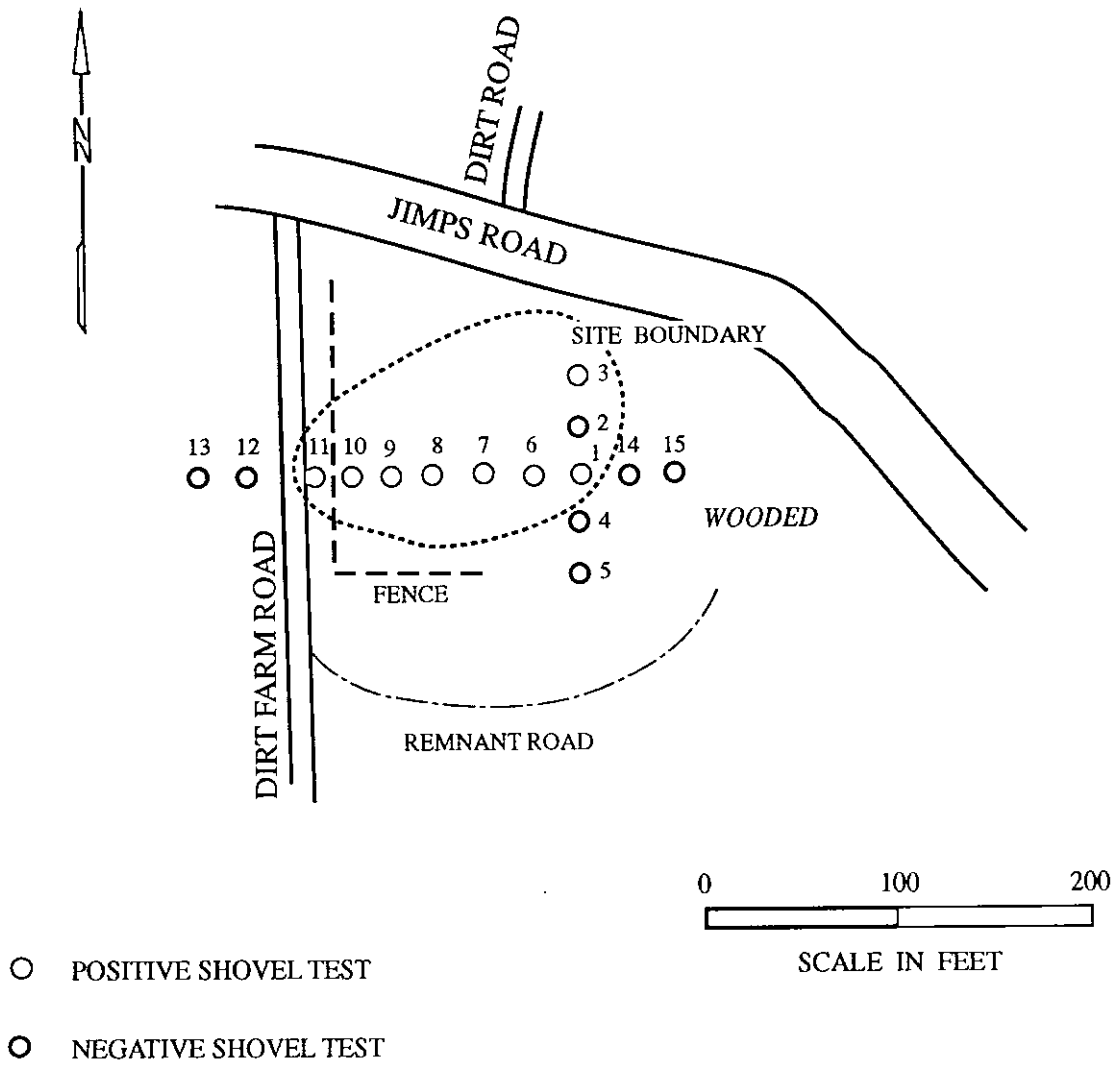

Figure 10. Location of shovel tests at 9BU20.

Table 4.
Location of artifacts at 9BU20

Artifact	Surf.	ST1	ST7	ST8	ST9	ST10	ST11
undec. ww	31				1		
tan/green ew	2						
stonewares	3						
burned ceramics	3						
brown glass	1				2		
clear glass	2	1	2	10	13	3	6
lt. blue glass	1						
blue glass	1						
milk glass	5						
jar sealers	1						
window glass				1			
wire nail spike				1			
Total	50	1	2	12	16	3	6

abbreviations: ww = whiteware; ew = earthenware

quadrangle map was made. It is unlikely that it has the potential to address important research questions relating to this time period.

9BU21 is located in the southern portion of the survey area on the south side of a knoll adjacent to an impounded intermittent stream (see Figure 2). Surface visibility was good, since the site is located in a fallow field, and a surface collection was made. In addition, nine shovel tests were excavated at 25 foot intervals in a cruciform pattern from the site's posited center. None of these tests yielded subsurface remains.

Artifacts collected from the surface include four Coastal Plain chert flakes, three Deptford Cord Marked (DePratter 1978) sherds, and one prehistoric sherd too small for identification.

Deptford pottery is recognized by a fine to course sandy paste, and the typical form is a cylindrical vessels with a conoidal base. Flat bottomed bowls with tetrapodal supports have been found a Deptford sites along the Florida Gulf coast (Milanich and Fairbanks 1980:79). However, these forms are rare in Georgia and South Carolina. Pottery styles include check stamping, cord marking, simple stamping, a complicated stamping with resembles early Swift Creek, and a geometric stamping which consists of a series of carved triangles or diamonds with interior dots (see Anderson et al. 1982:277-293; DePratter 1979).

The plowzone consists of 0.9 feet of gray (10YR5/1) sand overlying light yellowish brown (10YR6/4) sandy subsoil. The central UTM coordinates are N3583760 E420920 and the soils are Lakeland sands. The site is 200 feet by 200 feet in size based on surface remains.

This site is recommended as not eligible for inclusion on the National Register. Surface remains were sparse and despite the excavation of nine shovel tests, no subsurface artifacts were recovered.

SUMMARY AND CONCLUSIONS

As a result of the archaeological survey of the 250 acre bulk storage tract, five sites were identified. Four of these are nineteenth or twentieth century domestic sites and one is a small Deptford Phase prehistoric scatter. None of these sites are recommended as eligible for inclusion on the National Register of Historic Places. They either lack integrity, are too sparse, or are too recent to contribute significant information to historic and prehistoric lifeways of Bulloch County.

Three of the four historic sites are located next to Jimps Road suggesting that the road was present possibly as far back as the 1830s. The remaining site is located on the edge of an agricultural field. A small dirt farm road exists approximately 200 feet to the south and may have provided access to this house as well as the agricultural fields. The pattern of settlement on this tract corroborates other findings on late nineteenth century settlement on the Coastal Plain (see Taylor 1984).

Only one prehistoric site was identified on the tract, so little can be said about prehistoric settlement patterns in the project area. However, the small size of this site and its location on a side slope adjacent to a small stream suggests that it may have been an overnight campsite.

While unlikely, it is always possible that additional archaeological remains may be encountered in the survey tract during construction. Construction crews should be advised to report any concentrations of brick rubble, obvious artifacts (such as bottles and ceramics), or concentrations of shell to the project engineer, who should report the material to the South Carolina State Historic Preservation Office or to the developer's archaeologist. No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist.

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